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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,461	03/09/2004	Richard B. Joerger	200-66400 (PB040047AF)	2407

56929 7590 07/17/2008
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EXAMINER	
JAMAL, ALEXANDER	

ART UNIT	PAPER NUMBER
2614	

MAIL DATE	DELIVERY MODE
07/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,461	JOERGER, RICHARD B.	
	Examiner	Art Unit	
	ALEXANDER JAMAL	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Based upon the submitted amendment the examiner notes that claims 1-18,21-26,29,30 are cancelled and claims 31-42 have been added.

2. The examiner notes additional prior art patents to Kocis (5854828), and Klein (3803594) which also teach the very well known concept of frequency division multiplexing and further disclose using single tones as status signals. Examiner contends that either could be used in a 103 obviousness rejection in lieu of the Donovan reference. The examiner maintains the Donovan reference in the 103 rejection below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 19,31,39,27,42, 32,33,40,41,20,27,28,34** are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art Fig. 1, and further in view of Donovan et al. (3792470) and further in view of Bell (5930340).

As per **claims 19,31,39,27,42,** Applicant's admitted prior art Fig. 1 discloses encoding circuit 126, and a first pair of wires coupling out of controller 126. Although controller 126 only shows a single wire in Fig. 1, examiner notes that any signaling will require a signal path and ground return path. Examiner reads the ground and signal wire as the 'first pair of wires'. Controller 126 receives battery status information from sensor 114 and outputs signaling representing battery status on line 130 (specification page 5 lines 15-30). The signaling includes a plurality of alarms all giving the status of the same battery (specification pages 3,4). Applicant's Fig. 1 discloses charge control 122 which may couple or uncouple the battery voltage to the subscriber line. The controller circuit 126 inherently comprises an 'encoding circuit' for the purpose of generating status signaling to the controller 142. Examiner reads any signaling as comprising one or more frequency components (tones). Applicant's admitted prior discloses a power supply supplied from an AC source that outputs a DC source onto the line, this inherently requires an AC/DC converter. Applicant's admitted prior art discloses a DC voltage sensor (fig. 1). However, applicant's admitted prior art does not disclose that each battery status is associated with a single tone and that the tones may be transmitted simultaneously on the first pair of wires.

Donovan teaches a system for sending multiplexed alarm status signals over a telephone line. Donovan teaches the advantage that tones associated with status signals may be transmitted simultaneously for the advantage of (Col 1 line 55 to Col 2 line 10) reducing the number or expensive lines needed to transmit all the status signals. It would have been obvious to one of ordinary skill in the art at the time of this application to use multiplexed

(simultaneously output) tone signals for the status signaling for the advantage of minimizing the number of lines required.

Bell discloses that it is desirable to leverage existing copper infrastructure by multiplexing various functions together on a common subscriber line where each function has signaling in different frequency bands (Col 1 lines 25-40). Bell discloses that one subscriber line may be used to transmit at least two signaling protocols with each protocol isolated so as to only couple to the correct terminals (Figs. 1 and 2). Examiner draws the standard telephone 'voice signaling' of Bell to applicant's admitted prior art 'power signaling' supplied on applicant's pair 110B (an existing copper pair) in Fig. 1. It would have been obvious to one of ordinary skill in the art at the time of this application that the existing copper infrastructure could be used to multiplex signaling protocols at different frequencies (such as the disclosed DC power signal and the 'tone signaling' performed by applicant's Fig. 1 Controller 126), in order to make use of the existing copper infrastructure.

As per **claims 32,33,40,41,** it is rejected as per the claim 19 rejection. Applicant's Fig. 1 discloses voltage sensor 124 signaling controller 126. Bell discloses low pass filter 311 coupled to the low frequency signaling terminal (Fig. 3). Applicant's Fig. 1, in view of Donovan and Bell's teachings would have lowpass filtering at all of the low frequency (DC) terminals (battery output, power supply output, ONT power supply components 134,136, voltage sensor 124) and high pass filtering at all of the high frequency terminals.(battery status controllers 126,142). Examiner further contends it would have been obvious to one skilled in the art to use the appropriate filter type for each specific signal frequency used (such as DC or tone frequencies).

As per **claims 27,** they are rejected as per the claim 19 rejection. The system of Donovan is not required to transmit the tone simultaneously and may only transmit a single tone. As per **claim 6,** Applicant's admitted prior art and Donovan and Bell disclose the multiplexed signaling on the subscriber line, and Bell discloses highpass (data band) and lowpass (voice band) filters coupled to each terminal that is coupled to the subscriber line (Figs. 1 and 2). Applicant's Fig. 1 discloses controller 126 that sends control signaling over a first pair of wires (a signal path and a ground return path) that is coupled to the second pair 110B via a filter as taught by Bell.

As per **claims 20, 28,** they are rejected as per the claim 19,27 rejection. Also, applicant's Fig. 1 in view of Bell's teachings, discloses voltage sensor 134 and controller 142 connected to input node N2 via the filtering components. The controller inherently comprises a status decoder for the purpose of decoding the battery status signaling sent by the controller 126.

As per **claim 34,** Bell discloses subscriber lines (twisted wired pairs) may be used.

3. **Claims 35-38** rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art Fig. 1 in view of Donovan et al. (3792470) in view of Bell (5930340) as applied to claims 33 and further in view of Dhara et al. (6879582).

As per **claim 35,** applicant's Fig. 1 discloses a battery with status signaling but does not specify that the battery is implemented as a UPS.

Dhara discloses a FTTH interface unit with a UPS with battery backup and status reporting (Col 6 lines 10-25). It would have been obvious to one of ordinary skill in the art at the time of this application to implement a UPS system for the advantage of providing a power supply that is less prone to interruptions.

As per **claim 36,** it is rejected as per the claim 35 rejection. The battery circuit described in the claim is a UPS.

As per **claim 37,** it is rejected as per the claim 27 rejection.

As per **claim 38,** applicant's admitted prior art already discloses a plurality of status alarms that are detected by and communicated by a battery controller which must inherently comprise a status encoder in order to derive the status alarm (battery status circuit) from the voltage measured by the voltage sensor.

Response to Arguments

1. Applicant's arguments have been fully considered but they are not persuasive and are moot in view of the new grounds of rejection.

As per applicant' argument that the prior art does not disclose a battery status circuit to output simultaneous tones on a line, the examiner contends it would have been obvious to implement the 'battery status circuit' of applicant's admitted prior art with the multiplexing driver of Donovan and the telephone line interface of Bell to create the

'battery status circuit' claimed by applicant. Applicant must consider applicant's prior art in view of the teachings of Donovan and Bell.

As per applicant's argument that Donovan does not teach multiplexing signals onto a 'power line', the examiner reads the 'transmission line' disclosed by Donovan as any line that may be used to transmit signals (which would include a power line). The examiner additionally notes that the Bell reference teaches to multiplex different signal types on a twp. The examiner reads the 'power' as another type of signaling and maintains that it would be obvious to implement the claimed invention in view of the cited prior art. The examiner notes that Bell clearly discloses how differing signal types (which would include DC power signaling) may be simultaneously transmit onto a common line via the use of filters.

As per applicant's arguments that there is no teaching to remove a control line and use a power line, the examiner contends that a communications line is defined by what it is carrying, and contends that Donovan and Bell are both directed towards combining signaling from separate lines to a common line in order to save resources., and examiner contends that one skilled in the art would see applicant's disclosed prior art as two different sets of signaling lines that could be combined as taught by Donovan and Bell. The DC power signal is at a different frequency than the status signaling tones and as such could easily be implemented via the frequency dependant filtering taught by Bell.

Applicant makes repeated arguments that it would not be obvious to remove the status signaling line for the power supply line, but the 'power supply line' claimed by

applicant is a twisted wired pair (see claim 34). Applicant's 'power supply line' is a twp, which is the most commonly used data signaling line in a telephone network !!

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization

where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

July 16, 2008